6141

Form 504
Rev. Dec. 1933

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } *Sheet No.* 4

State New Jersey

LOCALITY

Barnegat Bay

Barnegat Inlet & Vicinity

1935&6

CHIEF OF PARTY

J.C.Sammons & J.A.Bond

U.S. GOVERNMENT PRINTING OFFICE: 1934

6141

Note: See other title sheet attached for 1936 work

Form 537
Ed. Dec., 1930

REG. NO.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 4.

REGISTER NO. H6141

State NEW JERSEY

General locality ~~Inland Waters~~ Barnegat Bay

Locality ~~Barnegat Bay~~ Barnegat Inlet & Vicinity

Scale 1:10,000 Date of survey July, 1935.

Vessel Chartered launches

Chief of Party Jack C. Sammons

Surveyed by John A. McGeehan

Protracted by C. J. Harryman

Soundings penciled by E. H. Kirsch

Soundings in ~~fathoms~~ feet

Plane of reference M.L.W.

Subdivision of wire dragged areas by

Inked by Leonard A. McGann

Verified by Leonard A. McGann

Instructions dated May 16, 1935.

Remarks:

U. S. GOVERNMENT PRINTING OFFICE, 1933

Form 537

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

REG. NO.

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 4

REGISTER NO. H6141

State New Jersey

General locality ~~Inland Waters~~

Locality Barnegat Bay Barnegat Inlet + Vic

Scale 1:10,000 Date of survey May to July, 19 36

Vessel Skiff owned by party - MIKAWE

Chief of Party ~~J.C.Sammons~~, John A. Bond ~~and L. E. Graham~~

Surveyed by ~~J. A. McGeehan 1935;~~ G.W. Lovesee 1936.

Protracted by ~~C. J. Harryman 1935;~~ D. N. Watt 1936.

Soundings penciled by ~~B. H. Kirsch 1935;~~ G. W. Lovesee 1936.

Soundings in ~~fathoms~~ feet

Plane of reference M.L.W.

Subdivision of wire dragged areas by ----

Inked by Leonard A. McGann

Verified by Leonard A. McGann

Instructions dated May 16, 19 35

Remarks: Lt. J. C. Sammons Chief of Party 1935. Lt. John A. Bond Chief of Party to Sept. 1, 1936. Lt.Comdr. L. E. Graham Chief of Party to end of season 1936.

U. S. GOVERNMENT PRINTING OFFICE

Note: See D.R. of 1936 work for more detailed discussion (attached).

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SHEET NO. 4.

INSTRUCTIONS

The work on this sheet was done in accordance with instructions dated May 16, 1935, Project H. T. 205.

LIMITS OF SHEET

This sheet extends from Lat. 39°45' to Lat. 39°49' and from Long. 74°05' to Long. 74°12' and includes all of Barnegat Bay and its tributaries within this area. It joins on to Sheet No. 3 at the northern limits and no research work has been accomplished to the south of the sheet.

Due to a shortage of funds, the work on this sheet had to be discontinued when the field work was only about 20% completed.

SURVEY METHODS

All work on this sheet was accomplished by standard launch hydrographic methods, using shallow draft chartered motor launches. All soundings are recorded in fathoms and feet and reduced to feet. Sextant fixes were taken to objects located by triangulation on on aluminum mounted graphic control sheet. The shore line was transferred from tracings on celluloid of the photo compilation.

CHANNELS

The inland route passes across this sheet but it is impossible to tell much about it due to the incomplete work on this sheet. It apparently has a controlling depth of seven feet near the south end of this sheet and is a very narrow channel there. It is well marked by buoys and day markers.

DANGERS

There are no dangers to navigation on this sheet. The shoal areas are well marked by beacons and day markers.

DISCREPANCIES

No discrepancies of importance were noted in plotting this sheet. In some places the cross lines fail to check within one foot, but this can usually be traced to dropping of fractions in the tide reducers.

GEOGRAPHIC NAMES

No new names were obtained for geographic features shown on the sheet. All names shown were taken from Chart No.3243 and appear to be in common usage.

LANDMARKS FOR CHARTS

Lists of land marks for charts and non-floating aids to navigation are attached to descriptive reports for the graphic control sheets and another list with section of chart showing their location, was forwarded direct to the office under separate cover.

COMPARISON WITH PREVIOUS SURVEYS

All the soundings shown on Chart No. 3243 were transferred to an overlay sheet for hydrographic sheet No. 4 and a great deal of shifting is done in the shoal area. This is particularlly noticeable in the charted six foot spots north of the mouth of Double Creek.

H.6140 (1935-36)

The junction of this sheet with sheet No. 3 is satisfactory.

CHANGES IN SHORE LINE

This party located no shore line except on the outside beach and we have only a rough tracing of the shore line as determined by the photo compilation party. No comparison was made by this party to determine changes in shore line.

Lt. Jack C. Sammons,
Chief of Party.

STATISTICS FOR HYDROGRAPHIC SHEET NO. 4

Date 1935	Day Letter	Statute Miles of Sounding Line	Number of Soundings	Number of Positions
July 15	a	13.4	637	84
16	b	20.3	918	126
17	c	20.1	894	119
18	d	7.9	375	51
19	e	5.0	249	35
20	f	15.9	703	93
22	g	10.9	481	64
24	h	22.5	1051	140
25	j	8.0	378	55
27	k	8.0	395	55
29	l	30.3	1367	183
30	m	35.5	1617	217
	Totals	197.8	9065	1222

HYDROGRAPHIC SIGNALS
Sheet No. 4
Lt. J. C. Sammons

Triangulation Stations

	Triang. or Topo Name	Hydro Name	Year
△	Wave	Wave	1935
T	Pagoda	Pad	"
T	Signal TEMP	Temp	"
△	Shell	Sheal	"
T	F.P. Oyster Cr.	Ter	"
T	Fogel	Fog	"
T	Cottage U.S.E.	Cot	"
T	Kelley	Kel	"
T	Blind Tank	Blind	"
△	Gat	Gat	"
T	White Chy Plastered Last		"
△	Gulf	Gulf	"
△	Barnegat L.H.	Barn	1872
△	" C.G. Flagtower	Tow	1935

△ Located by triangulation.
T. Located by topography.

Topographic Stations

Name	Topo Sheet
Bed	G
Bea	"
Nal	"
Bay	"
Clu	H

1936 DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SHEET NO. 4

DATE OF INSTRUCTIONS - May 16, 1935 Project HT-205

LIMITS AND JUNCTIONS

See 1935 descriptive report for this sheet.

A good junction was obtained with the sheets joining to the north and south.

SURVEY METHODS

See 1935 descriptive report. A skiff with outboard motors was used for all the 1936 hydrography, except the one day's work outside Barnegat Inlet when a sea skiff was hired at the Inlet. The above mentioned outboard motor skiff was owned by the 1935 party and used all season by this sub-party.

CHANNELS

The New Jersey Inland Route passes across this sheet and has a controlling depth of 7 feet near Lat. 39° 45.6' and Long. 74° 10'. Near the south edge of the sheet this channel becomes narrow, but is well marked with buoys.

The natural channel passing about one-half mile northward of Clam Island is marked with bush stakes on the southeast side of the channel. These bush stakes are from 30 to 75 meters apart and are probably renewed each spring by the Bureau of Commerce and Navigation of New Jersey. This channel has a controlling depth of 2½ feet at the southwest entrance and 5 feet at the northeast entrance. The channel is used extensively by local yachts and fishing parties.

Oyster Creek Channel is the main channel connecting Barnegat Inlet with the Inland Waterway Route. This channel has a controlling depth of 5* feet between mid-channel buoys "L and M". 4 ft. U.S. Engr's Letter 523 (1936) Sea Review 8 b (2)

There is a natural, unmarked channel between the last 2 above mentioned channels that has a controlling depth of 3 feet at the western entrance, Lat. 39° 47.35', Long. 74° 09'. This channel is used by local residents only, and should not be entered by boats not familiar with the channel.

There is a well marked dredged channel leading to a fish cannery from Barnegat Inlet at Lat. 39° 45', Long. 74° 06.9'. This channel has a controlling depth of 3 feet near the entrance. There is a small boat basin about 125 meters northeast of this fish cannery and the controlling depth to this basin is 2 feet near the entrance of the basin.

The channel leading to Oyster Creek is marked with bush stakes and maintained by local residents and has a controlling depth of 2 feet.

The channel leading to the boat basin at Waretown and 70 meters north of topo signal INNE was originally dredged to a depth of 7 feet but the hurricane of November 1935 filled the entrance and the present depth is 3 feet. The hurricane of September 1936 may have shoaled this entrance to a less depth. The other boat basin 770 meters north has a controlling depth of 2½ feet at the entrance. Both these boat basins have plenty of water in the basin. 2 ft. on sheet H GR and sdg. record.

There is a small channel which is unmarked, leading to the hunting club at Lat. 39° 47.67', Long. 74° 07.14'. The controlling depth is 1½ ft.

The controlling depth at the entrance of Barnegat Inlet was 6½ feet between midchannel buoys "A and B". The controlling depth of this inlet probably varies slightly with the seasons and storms, but the position and direction of the channel is subject to change. Buoys marking the deepest water and best entrance are maintained by the U. S. Lighthouse Service and changed from time to time as necessary. This entrance should not be used in moderately heavy weather as breakers extend all the way across the entrance.

Soundings near the low water line about 350 meters southeast of the Barnegat Lighthouse indicate the presence of a small channel near the beach but these 6 foot soundings do not continue to the south. The hydrographer was unable to extend the sounding lines further to the south in this vicinity because of breakers here during the remainder of the time hydrography was being completed in Barnegat Inlet and Bay.

There is a natural channel marked by bush stakes leading north from Oyster Creek Channel at Lat. 39° 47.5', Long. 74° 07.7'. The channel makes one sharp turn to right, about 1100 meters north of the beacon at topo signal GAG, for a short distance, then bears left past the beacon at hydro signal JUNE. The turns are well marked by bush stakes on both sides between the two above mentioned beacons. The controlling depth of 3½ feet is found at the sharp turn to the right 1100 meters north of topo signal GAG. The channel goes into deeper water at hydro signal JUNE (lighted beacon) and is not marked north of the beacon.

The shore line bordering the south side of the channel near Barnegat Inlet, between topo signals BARN and JOE is subject to erosion. A sounding line running about 10 to 15 meters off low water line on the boat sheet, plotted inside the shore line of 1935. The topographer then reran the shore line here and it was found that the shoreline had eroded from 10 to 35 meters since the survey of 1935. See topographic sheet No. "J".—
T-6499 (1935-1936)

DANGERS

There is a rock, covered 1½ feet at low tide near the main channel off Barnegat Light (~~topo~~ Hyd signal BARN). The rock is 125 meters northwest of the light. See position 1 and 2 c' day, volume 15 page 23. The lighthouse service maintains buoys marking center of channel and this clears the rock about 40 meters if a course is run between buoys. plotted as * at MLW

There is an old iron piling which bares 1 foot, at a 2' tide about 385 meters southwest of hydro signal HICK. This is well out of the channel and should not be a menace to navigation.

BUOYS

The location of 1935 buoys were removed from smooth sheet. Location of 1936 buoys are shown on the smooth sheet.

DISCREPANCIES

The Island at position 38 c' (blue) volume 15 page 31 is smaller than shown on the photo compilations. The island is grass covered and the high water line is inked correctly on the smooth sheet.* 39°45.35 74°06.89 *Reference note added to T-5097 regarding this paragraph

Discrepancies in cross sounding lines can be traced to dropping of fractions in the tide reducers and reduced soundings. Largest differences were usually one foot. A discrepancy of 1½ feet was noted on the junction with sheet 3 to the north, on two sounding lines. Most of this difference is traced to dropping of fractions. Good junctions were obtained with sheet 3 to the north and sheet 5 to the south. H 6140 (1935) H-6142 (1936)

GEOGRAPHIC NAMES

See 1935 descriptive report.

LANDMARKS FOR CHARTS

See 1935 descriptive report and additional note (1936) on the topographic descriptive reports.

COMPARISON WITH PREVIOUS SURVEYS

Considerable change is noted from the soundings as shown on chart number 3243. Changes are due to shifting of channels, dredging operations and real estate developments. The Winter Anchorage shown on chart 3243 about 2 miles north of Barnegat Inlet should be removed as the low land between Island Beach and Sedge Islands is gradually being closed and filled by private interests and real estate development. Only one foot can be carried to the deeper water from the northwest, see smooth sheet.

CHANGES IN SHORELINE

The shoreline as shown on photo compilations is correct except in the vicinity of Barnegat Inlet. See last paragraph under CHANNELS for one change in shoreline.

The shoreline in vicinity of Sedge Islands is shown as dashed line on photo compilations. The topographer checked the shoreline here and rodded where necessary until a good junction was obtained with that shown on photo compilations. This shoreline, not rodded , is left in pencil on smooth sheet but is correct on the west side of the islands near the Oyster Creek Channel. The shoreline on Barnegat Inlet side of Sedge Islands is subject to change with every storm and season. At the time of the hydrographic survey the shoreline was as shown in pencil on smooth sheet. The private development is also gradually connecting Sedge Islands with Island Beach.

In November 1935 a hurricane caused a new inlet to break thru Island Beach directly east of Sedge Island at the narrow portion of the beach. This inlet was closed by local residents before much damage was done. During the cold weather and while the bay was frozen and tides from the ocean were sluggish local residents drove a double row of piling across this new inlet and filled between the piling with brush. This soon filled over with sand and has gradually built up until it is now several feet above high and average storm water line.

The high water line on the north side of Barnegat Inlet is subject to change with every storm. See topographic sheet No. "H" for the difference between the 1935 and 1936 surveys. T-6398 (1935) addl work May, 1936.

The low water line between the Sedge Islands and Barnegat Inlet was located on the southeast side by the hydrographer, and several positions were taken at low tide, see smooth sheet. The low water line on the northwest side was sketched at the same time and is approximate. Low water line here is subject to change with every storm and season.

There is a rock breakwater which protects the north side of the entrance to northernmost boat basin at Waretown. See volume 6 page 27.

STATISTICS AND TIDAL DATA

A sheet of statistics and tidal data is appended.

Submitted by,

George W. Lovesee

G. W. Lovesee
Jr. H.& G. Engineer

Approved by

L. D. Graham

L. D. Graham
H. & G. Engineer
Chief of Party

LIST OF STATISTICS - HYDROGRAPHIC SHEET 4 - 1936

Date	Day Letter (blue)	Statute Miles	Soundings	Positions
May 15	a	10.7	357	65
18	b	18.0	680	130
20	c	14.4	587	111
21	d	7.0	270	49
22	e	13.2	708	150
25	f	10.5	407	75
26	g	11.8	518	108
27	h	11.6	487	105
28	j	7.0	405	76
June 5	k	5.0	209	46
8	l	8.0	394	82
9	m	6.5	256	61
10	n	23.0	878	150
11	p	15.6	601	109
12	q	17.0	611	126
15	r	18.9	731	124
17	s	13.0	537	96
18	t	1.7	70	13
25	u	17.8	641	117
26	v	19.5	773	147
27	w	5.0	170	50
29	x	18.6	684	128
30	y	2.0	105	20
July 1	z	18.7	827	150
2	a'	15.2	642	125
3	b'	5.2	200	43
6	c'	7.0	281	75
7	d'	0.0	23	23
		321.9	13052	2554
			9065	1222
			22117	3776

Smooth sheet No. 4 was plotted under the immediate supervision of the Chief of Party. The sheet and accompanying records have been inspected and are approved.

L. D. Graham

L. D. Graham
H. & G. Engineer
Chief of Party

EGC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Ed. Feb. 1935

TIDE NOTE FOR HYDROGRAPHIC SHEET

February 8, 1937.

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. E. P. Ellis

Tide Reducers are approved in
15 volumes of sounding records for

HYDROGRAPHIC SHEET 6141

Locality Barnegat Inlet and Vicinity, N. J.

Chief of Party: J. C. Sammons & J. A. Bond in 1935-1936
Plane of reference is mean low water reading
2.1 ft. on tide staff at Waretown
4.5 ft. below B.M. 1
2.1 ft. on tide staff at Gage A
2.6 ft. below B.M. 1A
1.9 ft. on tide staff at Gage B
2.8 ft. below B.M. 1B
2.6 ft. on tide staff at Gage C
3.2 ft. below B M. 1C
3.0 ft. on tide staff at Gage D
3.9 ft. below B.M. 1D
3.0 ft. on tide staff at Gage H
12.3 ft. below B.M. 4
2.7 ft. on tide staff at Gage I
12.6 ft. below B.M. 4
~~Condition of records satisfactory except as noted below:~~

Height of mean high water above plane of reference is 0.6 foot at Waretown and Gage A; 1.1 feet at Gage B; 1.4 feet at Gage C; 1.7 feet at Gage D; 2.3 feet at Gage H; 3.1 feet at Gage I.

Ham

Acting Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE

	Remarks	Decisions
1		see T-5098
2		" "
3		see T-5097
4		" "
5		" "
6		" "
7		" "
8		" "
9		see H-6142
10		see T-5097
11		
12	see D.R. (pg. 3) Name recom. to be removed from chts. GFE	see T-5097 (1932)
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

M 234

GEOGRAPHIC NAMES

Survey No. H6141

Name on Survey	On Chart No. 1216 A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Oyster Creek *	✓ appd									1
Waretown *	✓ appd									2
Island Beach *	✓ appd									3
Sedge Is. *	✓ appd									4
Barnegat Bay *	✓ appd									5
Clam Island *	✓ appd									6
Barnegat City *	✓ appd									7
Barnegat Inlet *	✓ appd									8
High Bar *	✓ appd									9
Sunset Shoal	✓ appd									10
Oyster Creek Chan *	✓ appd									11
~~Winter Anchorage~~ *	✓ appd									12
										13
										14
										15
										16
										17
										18
										19
										20
* Names appd for hydro Sheet										21
										22
										23
										24
										25
										26
										27

Names underlined in red approved by GAE on 3/2/37

M 234

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. H6141

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	3776
Number of positions checked	123
Number of positions revised	24
Number of soundings recorded	22117
Number of soundings revised	15
Number of signals erroneously plotted or transferred	———

Date: April 2, 1937.

Verification by Lenard A. McSumm Time: 92 hours.

Review by G. Risegari Time: 42 "

HYDROGRAPHIC SURVEY NO. H6141

Smooth Sheet yes

Boat Sheet yes

Sounding Records 15 Vols.

Descriptive Report yes

Title Sheets 2

List of Signals yes

Landmarks for Charts (Form 567) yes

Statistics yes

Approved by Chief of Party yes

Recoverable Station Cards (Form 524) none

Special Chart for Lighthouse Service (Circular Nov. 30, 1933) yes

Remarks HYDROGRAPHY
Total Days 40
Last Date July 7, 1936

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~

No. H 6141
~~No. H~~

received Dec. 22, 1936
registered Jan. 4, 1937
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
✓ 22		JPP	
24			
✓ 25			page 1, first D.R.
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

✓ 82	C.K.Green

Report on H-6141 (1935-1936).

The records conform to the requirements of the Hydrographic Manual except for the following.

1. No bottom characteristics are entered in the sounding volume comprising the sounding lines in Oyster Creek.

~~2. No list of landmarks for the area is attached to the descriptive report for H-6141. This list has not been enclosed in any report.~~

The usual depth curves can be completely drawn except along the south shore of Barnegat Inlet between longitude 74° 06' and 74° 07' where the slope of the bottom is almost precipitous.

There is satisfactory agreement between cross-lines.

Near Waretown T.G. (39° 47.2 / 74° 11.) position 146 (red) is a weak fix and the sounding at this position is not shown as it conflicts with the crossing on line 21-22, "C" day (blue).

Position 72c (blue) near black buoy (CI) in Barnegat Inlet was omitted from the field plotting. This position was originally plotted in this office by the verifier.

The shoreline shown on this compilation is based on air photo compilations T-5097 (1932-33). T-5096 (1932) T-3098 (1932); Graphic control surveys T-6397b (1935) T-6398a, T-6398b (1935). T-6499 (1935-36).

The topographic station at latitude 39° 45'.5, longitude 74° 06'.9 has no name. This signal is not on Ross sheet & evidently was not used BR.

Satisfactory junctions were made with H-6140 (1935) on the north, with H-6142 (1936) on the south. The junction with H 6136 (1936) 1/20,000 scale on the east is not entirely satisfactory * This latter junction was made by plotting the positions from the sounding records while the junctions with H-6140 and H-6142 were made by the tracing paper transfer method.

*See Review on Junctions.

Leonard A. McJames
April 3. 1937.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6141 (1935-36) FIELD NO. 4

Barnegat Inlet and Vicinity, Barnegat Bay, N. J.
Surveyed in July 1935, May to July 1936, Scale 1:10,000
Instructions dated May 16, 1936 (J. C. Sammons).

Hand Lead Soundings. 3 Point fixes on shore signals.

Chief of Party - J. C. Sammons, J. A. Bond.
Surveyed by- J. A. McGeehan, G. W. Lovesee.
Protracted by - C. J. Harryman, D. N. Watt.
Soundings plotted by - E. H. Kirsch, G. W. Lovesee.
Verified and inked by - L. A. McGann.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except that no bottom characteristics were recorded in Oyster Creek.

The Descriptive Report is complete and satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The plan, character and extent of development satisfactorily covers all items of importance except that on the north outside coast, vicinity of Barnegat Inlet, the sounding lines were not carried far enough north to make a good junction with H-6136 (1936). (See par. 6b, this review).

3. Shoreline and Signals.

The shoreline originates with air photo compilations T-5096 (1932) T-5097b (1935) and T-5098 (1932).
The topographic signals originate with graphic control sheets T-6397b (1935), T-6398a, b (1935) and T-6499 (1935-36).
Several hydrographic signals were also used, the pages and volumes in which the cuts are recorded being listed in the index of Vol. 1.

4. Sounding Line Crossings.

The depths on cross lines are in satisfactory agreement.

5. Depth Curves.

The usual depth curves may be satisfactorily drawn, including portions of the low water line.

6. Junctions with Contemporary Surveys.

a. The junctions with H-6140 (1935) on the north and H-6142 (1936) on the south are satisfactory.

b. On the outside coast the junction with H-6136 (1936) on the north is not entirely satisfactory. The limits of the work of the two surveys are too far apart and result in a gap approximately 1/5 mile in width.

c. The junctions to the east and southward on the outside coast will be considered when that work has been received from the field.

7. Comparison with Prior Surveys.

a. H-108(1840).

This survey on a scale of 1:10,000 covers the area of the present survey with generally widely spaced sounding lines. In general, in the more open areas the depths are in fair agreement with those on the present survey, but in the channel areas considerable changes have occurred in places which appear to be the result of natural causes. The information from this old survey, however, has been superseded by late surveys and it need not be used in future charting.

b. H-883 (1866) and H-1197b (1874).

These surveys are on scales of 1:10,000 and 1:20,000, respectively. The former covers the area between Barnegat Inlet and Clam Island, and the latter, practically the entire area of the present survey.

Except in the channels and close adjacent areas, the old depths are in good agreement with the present ones, varying from one foot or less shoaler than those on the present survey.

The most outstanding changes occur in the area between Barnegat Light and Clam Island where the axis of the channel has moved southward in places as much as 500 m. from that on the old surveys. In addition the shoreline of the inlet has changed greatly, having receded on the south shore approximately 150 m. from that on H-883 (1866) and 200 m. from that on H-1197b (1874) and advanced southwardly on the north coast approximately 1100 m. from that on H-883 (1866) and 900 m. from that on H-1197b (1874). Further discussion of the changes noted is omitted since it would serve no useful cartographic purpose.

The 6 foot spot (charted) in lat. 39°46' long. 74°10.5' originates with H-1197b (1874) and falls on the present survey in a

uniformly mud bottom with general depths of 8 feet. Comparison of the soundings shows that the area has deepened since the old survey. The 6 should not be considered in future charting.

Because of the changes noted, the age of the old surveys and the fact that all important areas were adequately developed on the present survey, H-6141 (1935-36) should supersede the above old surveys for charting purposes.

8. Comparison with Chart No. 1216 (New Print dated Oct. 7, 1936). Chart No. 3243 (New Print dated Jan. 27, 1937).

a. Hydrography.

Within the area of the present survey the charts are based on surveys discussed in the foregoing paragraphs and a U. S. Engineers survey of 1932 (Bp. 25, 409). The latter covers the area of the present survey between approximate lat. 39° 48.5' and lat. 39°45.5' and is not so well developed as the present survey. Comparison with the present survey shows that the depths in the flat open areas on the former survey have deepened by as much as 2 feet in places. In the channel areas, some general changes have occurred, some parts having shoaled and others deepened since the 1932 survey. In view of the changes noted, Bp. 25409 (1932) should be superseded by the present survey.

b. Controlling Depths.

(1). The controlling depth of 2 feet charted for Oyster Creek is based on Coast Pilot information noted on a copy of Chart 3243 filed as Bp. 29078 (1935). This is in agreement with the present survey.

(2). The charted controlling depth in Oyster Creek Channel (represented by a single 4 foot sounding charted in lat. 39°47.65' long. 74°09.4') is 4 feet as of June 1936 and originates with the Engineers report of June 1936 (Chart Letter 523, 1936). This information is subsequent to the present survey depths of 5 feet in this vicinity which were determined in July 1935.

(3). The charted controlling depth of the main channel of the Inland Waterway is 4 to 9 feet as of Sept. 1935 (Chart Letter 802, 1935). This information is prior to the 1936 work on the present survey (represented by blue position numbers and day letters) but subsequent to the 1935 work (represented by red position numbers and day letters).

c. Aids to Navigation.

(1). The two charted buoys on the offshore entrance to Barnegat Inlet are the only floating aids shown on Chart 1216 and they are not in agreement with the positions as located by the present survey on June 10, 1936. However, on Nov. 4, 1936, these buoys were moved and the new positions are in substantial agreement with the present survey positions. (Authority: L. H. N to M 46 of 1936).

(2). Buoy N 4 (lat. 39°48.9' long 74°09.3') was located in the same position as charted. The positions of the remaining aids shown on Chart 3243 are in disagreement by varying amounts with the positions shown on the present survey. These aids are destroyed or moved out of position during the winter season by the ice and are replaced in the following spring. (See D. R., page 2, par. 6). Because of the temporary nature of these aids, recommendations as to changes from the present charted positions or from the positions as located by the present survey would serve no useful purpose at this time and are therefore omitted. However, comparison between the charted positions and the survey positions are included here as a matter of record.

Buoy No.	Survey Pos. in relation to Charted Positions.	Charted origin
N6	250 m. SE of Charted Pos.	L.H.N. to M. 21 (1934)
C3	450 m. W. " " "	" " " " "
N8	800 m. SE " " "	Letter 290 (1934)
C5	500 m. NNE " "	" " "

(3). The two lighted buoys charted within the limits of this survey were not located by the present field party but the lighted beacon 45 and the unnumbered light (signal GAG) were located nearby. The buoys have evidently been replaced by the lights, and it is the plan of the N. J. State Board of Commerce and Navigation to replace all lighted buoys in the near future by lighted beacons. (See D. R. H-6140, page 2, par. 6.)

(4). The following buoys located by the present survey are not charted. These buoys in all probability are picked up before the freezing weather sets in and replaced again in the following spring by the N. J. State authorities.

Barnegat Inlet to and including Oyster Creek Channel:

A, B, C, D, C1, E, F, G, H, I, J, K, L, M, N, and O.

Inland Waterway:

B9, B10, B11, B12, B13, B14, B15, B16, B17, B18, B19, B20, Spar (unnumbered), B21, and B22.

9. Field Plotting.

Field protracting and plotting were well done.

10. Additional Field Work Recommended.

This is an excellent survey and no additional work is required.

11. Superseding Old Surveys.

Within the area covered the present survey supersedes the following surveys for charting purposes:

H-108 (1840) in part.
H-883 (1866) entirely.
H1197b (1874) in part.

12. Reviewed by G. Risegari, June 8, 1937.

Inspected by Harold W. Murray.

Examined and approved:

C. K. Green, C. K. Green.
Chief, Section of Field Records.

L.O. Colbert.
Chief, Division of Charts.

Fred. L. Peacock
Chief, Section of Field Work.

G Rude
Chief, Division of H. &. T.

Applied to drawing of Chart 1216 - Aug 4, 1937 - J.F. Walker
" " Chart 825 Oct. 1939 B.R.
" " " " 1939 U.R.E.